CLAIMS

1. Method for the production of a polymeric material tube associated with at least one optical fibre accommodated therein, which comprises the following steps:
   - feeding said at least one optical fibre along a path to an extruder;
   - extruding the polymeric material around said optical fibre to form said tube;
   - cooling the tube to a final predefined temperature, at which, during said cooling the following steps are performed:
     - applying a first traction force to the tube containing said optical fibre in a first section of said extrusion line;
     - applying a second traction force to said tube in a second section of said extrusion line, with substantial lack of congruence between said fibre and said tube, said second traction force being greater than said first traction force;
     - applying a third traction force to said tube in a third section of said extrusion line, said third traction force being less than said second traction force;

   said second traction force being such as to determine a longitudinal shrinkage of said tube after a storage period of one week or longer immediately after said extrusion, of at least 20% less than a similar tube that did not undergo such stretching.

2. Method according to Claim 1, characterized in that said second traction force is applied at a tube temperature at which the polymeric material

has a modulus of elasticity that is less than approximately 2000 Mpa.

3. Method according to Claim 2, characterized in that, at the tube temperature at which said second traction force is applied, the polymeric material has a modulus of elasticity that is between approximately 100 Mpa and approximately 2000 Mpa.

4. Method according to Claim 3, characterized in that, at the tube temperature at which said second traction force is applied, the polymeric material has a modulus of elasticity that is between approximately 300 Mpa and approximately 1500 Mpa.

5. Method according to Claim 1, characterized in that said final temperature is less than approximately 40°C.

6. Method according to Claim 5, characterized in that said final temperature is approximately 20°C.

7. Method according to Claim 1, characterized in that the tube temperature during the step in which said second traction force is applied undergoes a limited variation.

8. Method according to Claim 7, characterized in that the temperature variation in the length of tube subjected to said second traction force is approximately 10% less than the total thermal gap undergone by the tube along the extrusion line.

9. Method according to Claim 7, characterized in that the temperature variation in the length of tube subjected to said second traction force is less than approximately 20°C.

10. Method according to Claim 7, characterized in that the temperature variation in the length of tube subjected to said second traction force is less than approximately 10°C.

11. Method according to Claim 1, characterized in that said second traction force is predefined so as to cause a stretching of at least 1% when the polymeric material of the tube is polybutyleneterephthalate (PBT).

12. Tube of polymeric material produced in an extrusion process and comprising at least one optical fibre accommodated therein, characterized in that, during production, said tube underwent stretching such that the longitudinal shrinkage of said tube after a storage period of one week or longer immediately after said extrusion was at least 20% less than a similar tube that did not undergo stretching.

13. Equipment for producing a tube comprising at least one optical fibre accommodated therein, comprising:

- an extruder suitable for producing a tube of plastic material containing at least one optical fibre;
- at least one cooling pool;
- a stretching device suitable for applying increased pulling on a length of said tube,

the temperature variation in said tube length being 10% less than the total thermal gap of the tube from the extruder to ambient temperature.

14. Equipment according to Claim 13, characterized in that said stretching device comprises a driving element and a braking element, arranged between the extruder and said driving element.

15. Equipment according to Claim 14, characterized in that said driving element comprises a motor-driven wheel or a couple of motor-driven feeding tracks.

16. Equipment according to Claim 14, characterized in that said braking element comprises a motor-driven wheel or a couple of motor-driven feeding tracks, where the tube is fed at a speed less than the speed at which it is fed through the driving element.